

REMARKS

In response to the Office Action mailed 7 May 2004, the application has been carefully reviewed and amended. Applicant thanks Examiner Uhlir for his analysis of the cited references and detailed Office Action contributing to advancing prosecution of the application. Applicant respectfully requests entry of the present amendment and reconsideration of the application.

Rejections under 35 U.S.C. §103

Claims 1-4, 40-41, 44, 46-50 and 52-55

Claims 1-4, 40-41, 44, 46-50 and 52-55 stand rejected under 35 U.S.C. §103 as being obvious over Katoh (US Patent No. 4,291,076) in view of Ford (US Patent No. 5,545,448), Rinehart (US No. Patent 5,827,608) and Junker (US Patent No. 4,994,311) [Paper 04272004, Page 2, Paragraph 30]

The Examiner asserts Katoh teaches an automotive weatherseal comprising a metal sheet 2; a body 1; and layers 3a3, 3b3, lips 3c3 (Figure 4B and column 3, lines 50-65). [Paper 04272007, Page 8, Paragraph 32]. The metal layer 2 is considered by the Examiner to be equivalent to the claimed metal reinforcing layer. The body 1; layers 3a3, 3b3; and lips 3c3 are made of polymer materials and are considered by the Examiner to be equivalent to the claimed resilient polymeric body. [Paper 04272007, Page 8, Paragraph 32]

The Examiner recognizes Katoh fails to disclose a heat fusible powder coating directly on the surface of the metal reinforcing member and directly on a portion of the resilient polymeric body. [Paper 04272007, Page 8, Paragraph 33]

Ford is relied upon to teach that the entire (seal and trim) of an automotive weatherseal is advantageously coated with a colored coating so as to match the color of the weatherseal to the paint work of the vehicle. Further, the examiner asserts "there is strong motivation to substitute a powder coating for the solvent base to spray coating of Ford, namely the fact that powder coating does not utilize environmentally harmful solvents." [Paper 04272004, page 16, paragraph 76]

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Reinhardt is relied upon to teach that solvent free powder coating is recognized in the art to be suitable method for forming a continuous coating on an extruded article.

Junker is relied upon to show powder coating and automotive weatherseal with a colored powder coating to match the paint work of the vehicle.

The Examiner thus asserts it would have been obvious "to coat the entire weatherseal of Katoh (including the exposed metal portion) with a continuous colored coating per the teachings of Ford, with a powder coating, per the teachings in Rinehart and Junker. [Paper 04272007, Paragraph 35]

The Examiner further asserts "one would have been motivated to coat the entire surface of the Katoh weatherseal with a colored coating in view of the teaching in Ford that the entire surface of an automotive weatherseal is advantageously coated with a colored coating so as to match the paint work of the vehicle." [Paper 04272007, Paragraph 36]

With respect to the limitation requiring the powder coating to be selected to fuse as a contiguous film on the surface of the metal reinforcing member and the resilient polymeric body, the art is relied upon in that "at some point during the powder coating of the Katoh weatherseal, the amount of powder utilized will be sufficient to form a contiguous coating over the surface of the weatherseal." [Paper 04272007, Paragraph 37]

Rinehart is relied upon to motivate the use of the powder coating instead of the solvent based coating to avoid the deleterious effect on the environment. [Paper 04272007, Paragraph 38]

Applicant respectfully asserts the following issues preclude the proposed combination of references from sustaining the asserted rejection.

To coat the entire surface of the Katoh weatherseal is expressly contrary to the intended purpose of Katoh.

Applicant respectfully submits (i) the proposed modification is not reasonable to one of ordinary skill in the art and (ii) the disclosure of Katoh is directed to providing an exposed surface of the metal foil.

(i) The proposed coating of the entire surface of Katoh (for any reason) represents significant additional processing steps which could be readily obviated by Katoh itself. That is, Katoh already accommodates the proposed environmental considerations and color results relied upon by the Examiner. Specifically,

The trim molding strips of the present invention can be manufactured by a process which comprises providing a metal foil having a thin adhesive on at least one surface thereof, and extruding the plastic of the substrate and the protective layer on the metal foil in a die, as is shown in U.S. Pat. No. 3,136,676.

(Col. 3)

If it were desired to cover the metal foil 2 of Katoh, one of ordinary skill in the art would modify Katoh to extrude the substrate entirely about the metal foil so as to embed the metal foil.

For Katoh to form an exposed surface of the metal foil 2, then require a secondary coating (powder coating) to cover the metal foil would be non-sensical. Such superfluous secondary processing (the formation of the powder coating, purchasing of the powder coating, handling of the powder coating, preparing the powder coating, applying the powder coating, heating the powder coating, and controlling the powder coating) would all be obviated if Katoh merely extruded the substrate about the metal foil 2.

The proposed modification of Katoh is actually contrary to a number of the bases asserted by the Examiner for modifying the cited references. For example, both the environmental conscience and economic desirability would suggest fully extruding Katoh, rather than partially extruding, then initiating the secondary process of powder

coating. Further, the choice of plastic material to be extruded by Katoh could be selected to provide the desired coloring, without requiring the secondary steps.

There is no support, other than hindsight, to modify Katoh with secondary processing requirements, when the process of Katoh can account for each of the asserted suggestions.

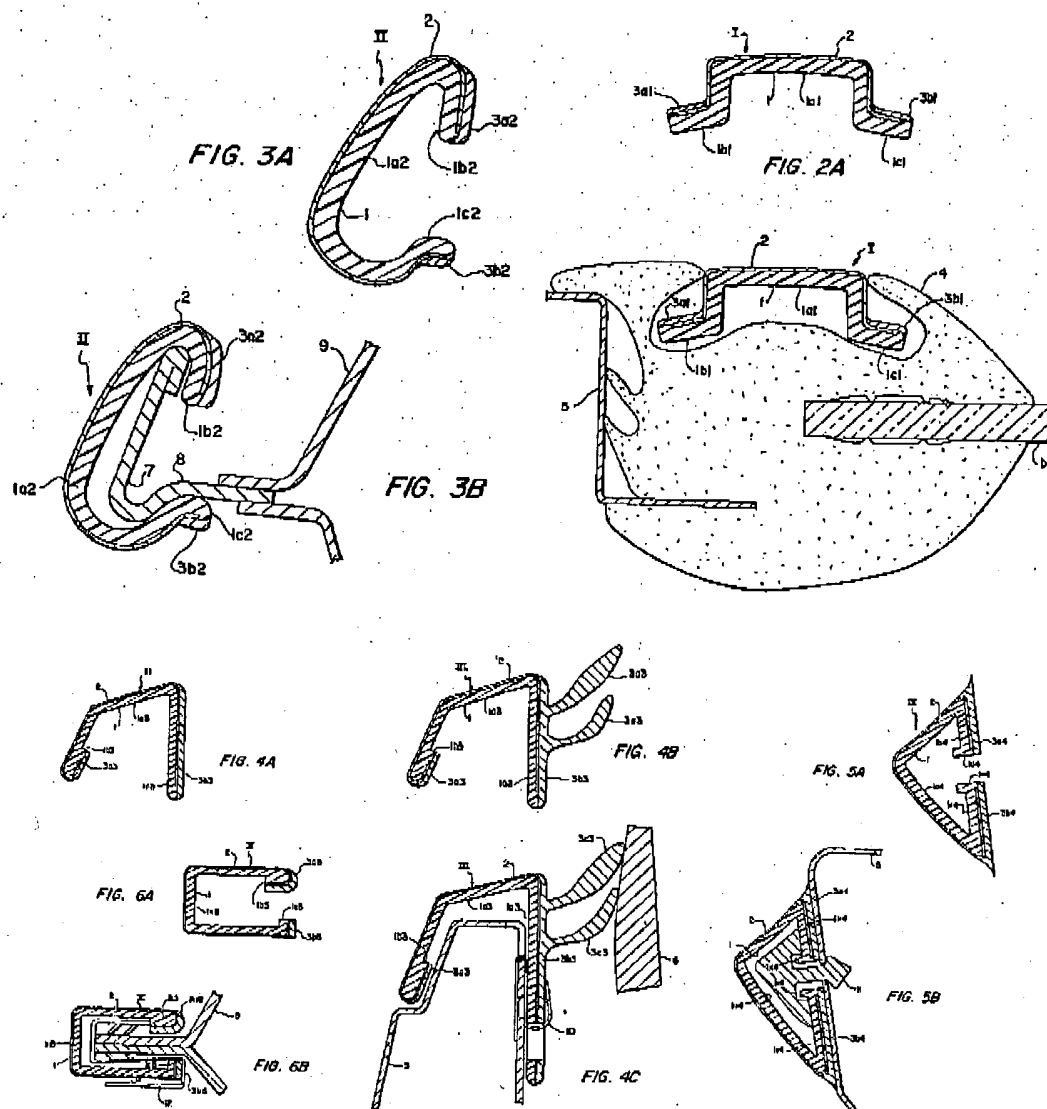
(ii) Further, to one of ordinary skill in the art, Katoh discloses an exposed surface of the metal foil 2.

The mere fact that the prior art could be so modified would not have made the modification obvious unless the prior art suggested the desirability of the modification. ... Indeed, if the French [cited prior art] apparatus were turned upside down, it would be rendered inoperable for its intended purpose. ... In effect, French teaches away from the board's proposed modification." *In re Gordon et al.*, 221 USPQ 1125, 1127 (Fed. Cir. 1984)

Katoh provides:

This invention is related to trim molding strips for vehicles and, in particular, to trim molding strips for vehicles which include a synthetic resin body, a metal foil covering the body and a protective layer which covers the metal foil on the end portions of the body. 10 (Col. 1)

The purpose of the metal foil 2 in Katoh is to form an exposed surface. Each and every cross section of Katoh provides an exposed surface of the metal foil 2.



The metal foil 2 of Katoh is exposed in each and every configuration of the trim molding. The body of Katoh is made of reinforced material resistant to heat and deformation (Col. 2, lines 63-65), the metal foil of Katoh is for decoration.

Each of the claims of Katoh recites in part "a metal foil bonded to said body member, said metal foil covering the center portion of said body member". That is, the metal foil is exposed.

As the proposed modification of Katoh is unnecessary in view of Katoh, and the modification of Katoh is contrary to each and every embodiment of Katoh, Katoh cannot sustain the asserted rejections.

Junker

While Junker is acknowledged to teach the formation of "islands" of polymer via the powder coating, the Examiner has taken the position that this simply results from Junker limiting the amount of powder utilized to form the coating.

However, Junker sinters a powder material. (Col. 1, lines 34, 40; Col. 2, lines 33, 36, 40, 43, 46, 54, 59; Col. 3, lines 35, 37; Col. 4, lines 1, 7, 11, 17 and Claims 1-6). Sintering is a different process than colliquescence (as set forth in the present description as the particles melting together to form a continuous film), which forms a different resulting structure.

Sintering is "to cause (metallic powder, for example) to form a coherent mass by heating without melting."¹ That is, the particles of Junker are heat fused together, as particles, without melting. Thus, the powder of Junker does not form a colliquescence (or continuous surface). Hence, the requirement in Junker that excess powder is removed by an air blast. (Col. 2, lines 44-45). If the particles of Junker were colliquified, there would be no excess particles.

As Junker states that the "islands" (dots) are sized so that "dirt which may be present can pass through the pattern of dots and is not smeared over the glass." (Col. 4, lines 2-5), such advantage would be sacrificed if the sintered islands of Junker were replaced with a colliquified layer. The formation of "islands" is a function of chemistry and the sintering of Junker, rather than merely the amount of powder coating.

¹ *The American Heritage® Dictionary of the English Language, Fourth Edition Copyright © 2000 by Houghton Mifflin Company*

A reference must "suggest" to sustain a rejection under 35 U.S.C §103. As Junker is directed to a sintered powder and forming islands for accommodating dirt, there is no suggestion for forming a colliquified layer which is neither a sintered structure nor accommodating to dirt.

Further, the Examiner asserts that while Junker teaches the benefits of forming islands of polymer by the powder coating, one "would not have been dissuaded from forming a continuous coating via powder coating." [Paper 04272007, Paragraph 56]

Hindsight

The genius of invention is often a combination of known elements which in hindsight seems preordained. To prevent hindsight invalidation of patent claims, the law requires some "teaching, suggestion or reason" to combine cited references. *Gambro Lundia AB v. Baxter Healthcare Corp.*, 110 F.3d 1573, 1579, 42 USPQ2d 1378, 1383 (Fed. Cir. 1997). When the art in question is relatively simple, as is the case here, the opportunity to judge by hindsight is particularly tempting. Consequently, the tests of whether to combine references need to be applied rigorously. *See In re Dembiczak*, 175 F.3d 994, 999, 50 USPQ2d 1614, 1617 (Fed. Cir. 1999), *limited on other grounds by In re Gartside*, 203 F.3d 1305, 53 USPQ2d 1769 (2000) (guarding against falling victim to the insidious effect of a hindsight syndrome wherein that which only the inventor taught is used against its teacher). *McGinley v. Franklin Sports Inc.*, 60 USPQ2d 1001, 1008 (Fed. Cir. 2001)

We have noted elsewhere, as a "useful general rule," that references that teach away cannot serve to create a prima facie case of obviousness. *In re Gurley*, 27 F.3d 551, 553, 31 USPQ2d 1131, 1132 (Fed. Cir. 1994). If references taken in combination would produce a "seemingly inoperative device," we have held that such references teach away from the combination and thus cannot serve as predicates for a prima facie case of obviousness. *In re Spinnoble*, 405 F.2d 578, 587, 160 USPQ 237, 244 (CCPA 1969) (references teach away from combination if combination produces seemingly inoperative device); *see also In re Gordon*, 733 F.2d 900, 902, 221 USPQ 1125, 1127 (Fed. Cir. 1984) (inoperable modification teaches away). *McGinley v. Franklin Sports Inc.*, 60 USPQ2d 1001, 1010 (Fed. Cir. 2001)

Trade-offs often concern what is feasible, not what is, on balance, desirable. Motivation to combine requires the latter. Second, if Johnson did in fact teach away from Moore, then that finding alone can defeat Wang's obviousness claim. *See Gambro Lundia AB*, 110 F.3d at

1579, 42 USPQ2d at 1383. A "reference will teach away if it suggests that the line of development flowing from the reference's disclosure is unlikely to be productive of the result sought by the applicant." *In re Gurley*, 27 F.3d 551, 553, 31 USPQ2d 1130, 1131 (Fed. Cir. 1994). *Winner International Royalty Corp. v. Wang*, 53 USPQ2d 1580, 1587

Further, the assertion that "at some point during the powder coating of the Katoh weatherseal, the amount of powder utilized will be sufficient to form a contiguous coating over the surface of the weatherseal." [Paper 04272007, Paragraph 37] is not sufficient to sustain the outstanding rejection. No portion of Junker has been identified to teach that the islands are formed by *reducing or restricting* an amount of powder coating. No portion of Junker has been identified to teach that "at some point during the powder coating of the Katoh weatherseal, the amount of powder utilized will be sufficient to form a contiguous coating over the surface of the weatherseal."

The examiner's conclusory statements that "the demonstration mode is just a programmable feature which can be used in many different device[s] for providing automatic introduction by adding the proper programming software" and that "another motivation would be that the automatic demonstration mode is user friendly and it functions as a tutorial" do not adequately address the issue of motivation to combine. This factual question of motivation is material to patentability, and could not be resolved on subjective belief and unknown authority. It is improper, in determining whether a person of ordinary skill would have been led to this combination of references, simply to "[use] that which the inventor taught against its teacher." *W.L. Gore v. Garlock, Inc.*, 721 F.2d 1540, 1553, 220 USPQ 303, 312-13 (Fed. Cir. 1983). *In re Lee*, 61 USPQ2d 1430, 1434 (Fed. Cir. 2002)

Therefore, applicant respectfully submits these flaws in the construction of Junker and reliance upon Junker preclude Junker from sustaining the asserted rejections.

Ford

The proposed equating of powder coating to the solvent based spray coating of Ford is not supported by the references. That is, the spray coating of Ford requires an pressurized air source to atomize and entrain the spray coating (solvent and solids). In contrast, a powder coating does not require the atomization of the solids. The powder coating solids (particles) are formed prior to initiation of the process. Further, one of

ordinary skill in the art recognizes that the powder coating requires an electric potential between the powder coating and the substrate. In contrast, the spray coating of Ford does not require such difference in potential.

Thus, the Ford spraying allows for varying thicknesses of the applied material, in addition the Ford spraying can readily coat surfaces (and substrates) that cannot readily provide the necessary difference in potential for powder coating. That is, the electrical potential will vary throughout a substrate in response to variations within the substrate material. In addition, the electrical potential difference can vary with environmental conditions, such as humidity. Thus, spraying the solvent based coating allows significant advantages. Therefore, the proposed modification of Ford is not consistent with Ford, or the motivation of one of ordinary skill in the art.

The Examiner asserts that "there is strong motivation to substitute a powder coating for the solvent based spray coating of Ford, namely the fact that a powder coating does not utilize environmentally harmful solvents" [Paper 04272004, Page 16, Paragraph 76]

However, Ford expressly relies upon the spray coating to allow the coloring of complex shapes. (Col. 3, line 64). Similarly, Ford employs spray coating for the advantage of being able to spray under a cosmetic lip. (Col. 4, lines 15-17). In addition, the spraying of Ford allows robotic spraying or automatic in-line spraying. (Col. 4, lines 37-40).

The chemistry of Ford provides these advantages, as the solvent spray will bond to the selected materials. As Ford is based on a spray application and thus takes advantage of the inherent benefits of spraying, the proposed conversion to powder coating would remove each of the express benefits relied upon by Ford.

A more compelling adaptation of Ford would be to employ non-hydrocarbon based solvents, thereby transitioning Ford to a water-based solvent which would remove the "environmental" issues relied upon by the Examiner, while maintaining each of the expressly recited advantages of Ford.

The proposed modification of Ford by Rinehart would lose the inherent benefits of spray application expressly called out in Ford, as well as require only two dimensional seals as provided by Rinehart.

Rather than lose the benefits of spray coating by employing two dimensional powder coating (Rinehart), applicant submits a more compelling modification would be the use of non-hydrocarbon based solvents in the spray system of Ford. Thus, all the inherent advantages of spraying are retained, and the environmental factor as asserted by the Examiner is satisfied.

Rinehart

Rinehart is directed to a method of forming a thermoplastic layer on a flexible two-dimensional substrate. The substrate of Rinehart is a film, on which a powder coating is disposed, wherein the powder coated film is a totally passed through a nip in a roller configuration, wherein one of the rollers is a heated roller. The nip configuration applies heat and pressure to simultaneously fuse the powder in the particle layer into a continuous thermoplastic layer and bonds to the substrate. [Col. 2, lines 40-43, Col. 3, lines 6-13, Col. 4, line 66 - Col. 5, line 3].

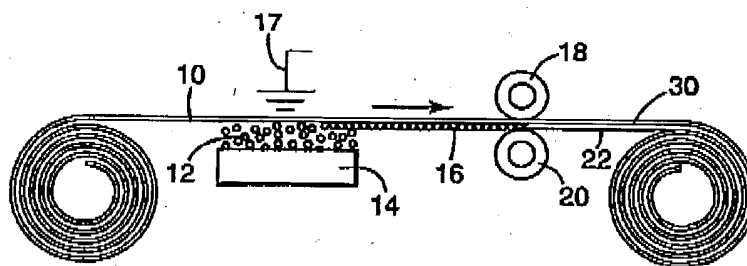


Fig. 1

That is, Rinehart reasonably discloses forming a thermoplastic layer on a flexible, two-dimensional substrate, wherein the powder is applied to at least one surface of the substrate to form a particle layer, and the coated substrate is subjected to elevated heat and pressure until particle layer is fused into a continuous layer and the continuous layer is bonded to the substrate.

Picking and Choosing

While applicant recognizes that attacking references individually may not overcome an obviousness rejection, the teachings of each reference as a whole must be considered, and selected picking and choosing is not permitted to support a rejection. The asserted combination of four references does not accommodate the express purpose of the individual references.

Thus, the following critical aspects of the references are not accommodated in the asserted combination:

1. Katoh is expressly directed to an exposed metallic surface for providing the decorative surface of the trim molding.
2. Junker, while suggesting a color to match/contrast the interior vehicle trim provides that "because the sintering process produces these "dots" of material, dirt which may be present can be passed through the pattern of dots and is not smeared over the glass (provided that the dirt grains are below a certain size)." [Col. 4, lines 1-5] Thus, a sintered structure is not a colligified layer.
3. Rinehart discloses a two dimensional substrate which must be passed through a roller set nip to apply heat and pressure. Thus, the Rinehart coating cannot be applied to three dimensional objects.²
4. While Ford discloses coloring to match the paintwork of the vehicle, the bonding to a three dimensional weatherseal requires spray coating of a precise stoichiometry chemistry.

Defining the problem in terms of its solution reveals improper hindsight in the selection of the prior art relevant to obviousness. *See, e.g., In re Antle*, 444 F.2d 1168, 1171-72, 170 USPQ 285, 287-88 (CCPA 1971) (warning against selection of prior art with hindsight). By importing the ultimate solution into the problem facing the inventor, the district court adopted an overly narrow view of the scope of the prior art. It also

² Applicant recognizes that all physical "two dimensional" objects have three dimensions. This distinction is in view of the definitions as set forth in the Rinehart reference.

infected the district court's determinations about the content of the prior art. *Monarch Knitting Machinery Corp. v. Sulzer Morat GmbH* 45 USPQ2d 1977, 1981 (Fed. Cir. 1998).

Upon a trial court relying upon a "trend" in the prior art to sustain an obviousness attack on the claims, the Federal Circuit stated:

Before the trial court, however, may examine the existence of a trend towards decreasing first segment heights among those needles with a first segment configuration, it must resolve an antecedent question. By defining the inventor's problem in terms of its solution, the district court missed this necessary antecedent question, namely, whether the prior art contains a suggestion or motivation to combine references *to form a trend*. See *Carella v. Starlight Archery*, 804 F.2d 135, 140, 231 USPQ 644, 647 (Fed. Cir. 1986) ("Obviousness cannot be established by combining the teachings of the prior art . . . absent some teaching, suggestion or incentive supporting the combination."); *Orthopedic Equip. Co. v. United States*, 702 F.2d 1005, 1012, 217 USPQ 193, 199 (Fed. Cir. 1983) ("It is wrong to use the patent in suit as a guide through the maze of prior art references, combining the right references in the right way so as to achieve [a desired result]."). Stated otherwise, what would have impelled one of ordinary skill to recognize a relationship between stem segment height and the hook breakage problem? If those of ordinary skill would have recognized a relationship, then, and only then, does the trial court proceed to examine whether the prior art in fact contains a coherent teaching about that relationship. Thus, before proceeding to find a trend, the trial court must discern whether one of ordinary skill would have had a motivation to combine references to form a trend. *Monarch Knitting Machinery Corp. v. Sulzer Morat GmbH* 45 USPQ2d 1977, 1982 (Fed. Cir. 1998).

Claim 1

As amended, Claim 1 recites in part,

- (a) a three dimensional resilient polymeric body;
- (b) a metal reinforcing member connected to the body; and
- (c) a heat fusible powder coating directly on a portion of the metal reinforcing member and directly on a portion of the resilient polymeric body, the heat fusible powder coating selected to fuse as a contiguous surface film on the portion of the metal reinforcing member and the portion of the resilient polymeric body."

Claim 1 includes a limitation directed to each of the omitted, or contraindicated, purposes of each of the four cited references.

1. As coating the entire surface of Katoh is contrary to the intended purpose of Katoh, the proposed modification of Katoh cannot sustain the asserted rejection.
2. Rinehart is directed to two-dimensional films that are subject to heat and pressure in a roller nip, and thus cannot be employed with the presently recited three dimensional bodies.
3. Ford requires a spray coating, particularly with a precise aromatic hydrocarbon and aliphatic ester solvent blend in exact proportions.
4. Junker discloses a dotted or discontinuous powder coating, rather than a continuous surface as set forth in the present claims.

Therefore, the proposed combination of references cannot sustain the asserted rejection of Claim 1. As Claims 2-4 depend from Claim 1 and include all the limitations thereof, these claims are also in condition for allowance.

Claim 40

Independent Claim 40 recites in part, "a three dimensional polymeric body; a metal reinforcing member connected to the body, one of the body and the reinforcing member selected to engage the automotive vehicle; and a colliquefiable powder coating directly adjacent a portion of the reinforcing member and directly adjacent a portion of the polymeric body..."

As the basis of the rejection of Claim 44 is that of the rejection of Claim 1, applicant respectfully reiterates the deficiencies of the prior art, and the proposed combination of the cited references. Thus, Claim 40 is believed in condition for allowance. As Claim 41 depends from Claim 40 and includes all the limitations thereof, Claim 41 is also in condition for allowance.

Claim 44

Independent Claim 44 recites in part, “

A vehicle weatherseal, comprising:

(a) a three dimensional thermoplastic weatherseal body having a sealing portion and a carrier portion, and

(b) a heat fusible powder coating directly on at least a portion of a surface of the sealing portion and directly on at least a portion of a surface of the carrier portion, the powder coating fusible into a contiguous layer on the surface of the sealing portion and the carrier portion.

While Katoh discloses polypropylene, the remaining deficiencies of the cited references are respectfully reiterated, and thus Claim 44 is in condition for allowance. As Claims 46-49 depend from Claim 44 and include all limitations thereof, these claims are in condition for allowance.

Claims 50 and 52-55

Claims 50 and 50 to 55 are rejected as set forth in the rejection of claims 44 and 46-49.

Therefore, in view of each of the deficiencies of the references previously set forth applicant submits Claims 50 and 52-55 are also in condition for allowance.

Claims 5-8, 10, 13-20, 23-24, 26, 33-39 and 42-43

Claims 5-8, 10, 13-20, 23-24, 26, 33-39 and 42-43 stand rejected under 35 U.S.C. §103 as being obvious over Ford (US Patent No. 5,545,448) in view of Rinehart (US Patent 5,827,608) [Paper 04272004, Paragraph 3]

The rejection is based on the premise that would have been obvious “to utilize the powder coating method taught by Rinehart to form the colored polymer layer taught by Ford.” [Paper 04272004, Paragraph 8] Specifically, the examiner asserts powder coating and solvent based spray coating are recognized to be equivalent methods and that the

solvent free nature of powder coating would motivate one to avoid the environmental impact of solvent based spray coating. [Paper 04272004, Paragraph 9]

As set forth in the detailed analysis of the cited references, Ford relies upon spray coating to achieve a number of advantages that are unattainable by powder coating (for example, the coloring of cosmetic lips and robotic or automatic in-line spraying). Further, were Ford to be modified in view of the reasons set forth by the examiner (environmental), then a water-based solvent composition would be employed in Ford. That is, the teachings of applying a powder coating to a two dimensional substrate requiring heat and pressure (passing through a roller nip - Rinehart) would not suggest interchangeability or application on a three dimensional weatherseal which is spray coated to take advantage of the spray coating process.

Therefore, the pressure and heat coating of a two dimensional film does not suggest modification of a spray system (and the express precise solvent based chemistry) to powder coating the recited three dimensional weatherseals.

Therefore, applicant submits the rejection of Claims 5-8, 10, 13-20, 23-24, 26, 33-39 and 42-43 cannot be sustained.

Claims 9, 11-12, 56, 58-61 and 63-65

Claims 9, 11-12, 56, 58-61 and 63-65 stand rejected under 35 U.S.C. §103 as being obvious over Ford (US Patent No. 5,545,448) in view of Rinehart (US Patent 5,827,608) in further view of Junker. [Paper 04272004, Paragraph 58]


The examiner asserts it would have been obvious to use the thermosetting powder as taught by Junker to form the powder coating utilized by Ford as modified by Reinhardt.

The inappropriate legal standard ("not dissuade") applied to Junker in view of the use of water based solvents to maintain the spray advantages of Ford and the limitation of Rinehart to two dimensional substrates fitting between a nip, preclude the asserted references from sustaining the rejection of these claims.

In one instance, in view of the cited reference expressly directed to a particular chemistry (Ford), the examiner asserts secondary considerations (environmental) overwhelmingly suggest change, yet where a reference teaches a specific construction for a specific purpose, one is not dissuaded from changing the specific construction (Junker). That is, the cited references are selectively relied upon and subject to impermissible legal standards. Applicant submits such rejections cannot be sustained.

Therefore, applicant respectfully submits all the pending claims, Claims 1-20, 23, 24, 26, 33-44, 46-50, 52-56, 58-61, and 63-65, are in condition for allowance and such action is earnestly solicited. If, however, the Examiner feels any further issues remain, he is cordially invited to contact the undersigned so that such matters can be promptly resolved.

Respectfully submitted,



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